

**ABSTRACT**

Described herein are methods of producing kinesins. In a preferred embodiment, the kinesins are produced from a prokaryote, most preferably, a bacterial cell. Bacterial expression offers several advantages over systems previously utilized, such as, for example, Bacculovirus. The yield of protein is higher, the cost of the expression setup is lower, and creation of alternative expression vectors is easier. The concern of copurifying a contaminating activity from the expression host is also eliminated since bacteria, in contrast to the bacculovirus expression system, do not have kinesin like proteins. Also described herein are purified kinesins, preferably unglycosylated and methods of use.